

SPECIFICATION

TITLE OF INVENTION

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Country of Residence	US
Primary Citizenship Country	US
Title	<p>Business to business Clearinghouse enabling physicians to create and modify prescriptions and then send those prescriptions to a pharmacy. Prescriptions would be transmitted over the public internet using a secure protocol. Patients can also access their prescription data over the internet using a secure protocol.</p>

CROSS-REFERENCE TO RELATED APPLICATIONS

Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable.

BACKGROUND OF THE INVENTION

1. The invention is a clearinghouse that operates over the public internet and supports business to business and customer to business relationships. The specific products handled by the clearinghouse are prescriptions created by a physician for delivery to a pharmacy for any given patient.

2. Currently, physicians create prescriptions for drugs by hand writing the prescription on a paper prescription form, give the paper prescription to the patient, and the patient then delivers the prescription to the pharmacy. The problems with this process are as follows:
 - a. Patient can lose paper prescription.
 - b. Pharmacy can lose paper prescription.
 - c. Patients can forge prescriptions.
 - d. Pharmacy might not be able to read prescription.
 - e. Pharmacy must manually enter prescription data into their computer systems.
 - f. Complete patient prescription history is unavailable.

- g. Pharmacy may have outdated patient data on file.
- h. Pharmacy must call physician with questions regarding a prescription.
- i. Prescription could specify invalid dosage and frequency for a patient.
- j. Drug interactions or identification of mutually exclusive drugs difficult.

BRIEF SUMMARY OF THE INVENTION

The invention is an electronic prescription clearinghouse that operates over the internet. The clearinghouse supports both business to business (B2B) and customer to business (C2B) relationships. The B2B relationship refers to the link created by the clearinghouse between physician and pharmacy. This link allows a physician to electronically submit prescriptions to a pharmacy; and the pharmacy can also communicate with the physician through the clearinghouse.

The C2B relationship refers to the link created by the clearinghouse between physician and his/her patients. Patients can access their current and historical prescription history. Patients can communicate to the physician or pharmacy through the features offered by the clearinghouse.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

Not applicable

DETAILED DESCRIPTION OF THE INVENTION

1. Business Overview

The invention, an electronic prescription clearinghouse, resolves all of the problems itemized in the "Background of the Invention" section of this document. Since the invention is an internet-based software application, the need for a paper prescription is eliminated. The physician creates the prescription using a Web Browser and then electronically transmits the prescription to the pharmacy specified by the patient. Prior to transmitting the prescription, the clearinghouse saves the prescription in its database.

Since prescriptions are transmitted to the pharmacy electronically, they can automatically update the pharmacy computer systems with the transmitted prescription data, thereby avoiding loss of the prescription. Also, since the prescription is typed and not handwritten, all legibility problems are eliminated. If the pharmacy does have questions regarding a prescription, it can email those questions along with the specific prescription back to the physician through the electronic prescription clearinghouse instead of having to call the physician. This elimination of phone calls improves overall efficiency for the pharmacy and the physician, thus reducing operational or administrative costs. The clearinghouse can also eliminate drug dosage and frequency problems by allowing the physician to enter/select drug name, patient age and weight.

The clearinghouse software, otherwise known as the system, will automatically calculate the correct dosage and frequency. The system will also have the ability to

check patient prescription history. This would help prevent situations where one physician is prescribing a drug that should not be used with a drug already prescribed by a different physician for that patient. And patients registered with the clearinghouse can go anywhere in the world, and as long as internet access is available, that patient can access and provide their history to a physician or any medical facility.

2. Technical Details

The electronic prescription clearinghouse has been designed using a number of industry standard architectures, frameworks, and open source solutions. Some of those standards and solutions are:

- a. Model-View-Controller architecture
- b. Component Model architecture
- c. Java (J2EE) programming language
- d. Java Servlets
- e. Java Server Pages
- f. Java Mail and Java Activation Framework
- g. Apache Struts presentation framework
- h. Apache Web Server
- i. Apache Tomcat Servlet Container
- j. JBoss, EJB Container

The clearinghouse is designed to run on any IBM-, Intel-, SPARC- or RISC-based processor. Additionally, the clearinghouse can also run on any Java compliant web

application server and interact with any relational database supporting the Java JDBC interface. It is also possible for the clearinghouse to communicate with the pharmacy using reliable queues or Java Messaging Service. The clearinghouse can also transmit prescriptions in a pharmacy-defined XML format, delimited format, or an industry standard format. User will be able to access the clearinghouse from any Web browser, or hand-held device having access to the internet.

The clearinghouse is designed to run on the public internet using a secure protocol such as HTTPS. The HTTPS protocol ensures the privacy of prescription related data by encrypting that data prior to transmission over the internet. Since the clearinghouse is built on the internet (an open network), barriers to access are eliminated and anybody connected to the internet has access to the clearinghouse.

To ensure that only authorized individuals are able to access the data stored in the clearinghouse, those individuals who require access to the clearinghouse must first register with it. If the clearinghouse approves the registration, it creates a user-Id and password and sends that information to the requesting individual. The individual then accesses the clearinghouse based on the security role assigned to it by the clearinghouse.